

Lycosid Spiders of Japan VI. The Genus *Xerolycosa* DAHL

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Abstract: This paper is the sixth of the series of "Lycosid spiders of Japan", and the following one species is dealt with: *Xerolycosa nemoralis* (WESTRING). This species is redescribed and illustrated based on the newly collected materials from various localities in Japan. Its biology is also briefly described.

Introduction

The genus *Xerolycosa* was established by DAHL (1908) and contains the following six species distributed in the Palaearctic and Ethiopian subregions: *X. edax* (THORELL, 1875), *X. miniata* (C.L. KOCH, 1834), *X. nemoralis* (WESTRING, 1861), *X. brunneopicta* LOKSA, 1965, *X. pelengena* ROEWER, 1960, and *X. sansibarina* ROEWER, 1960. Of these, only one species, *nemoralis*, is known to occur in Japan. I will redescribe here the species based on the materials collected from various parts of Japan.

Genus *Xerolycosa* DAHL

(Type-species: *Lycosa nemoralis* WESTRING, 1861.)

Xerolycosa DAHL, 1908, pp.201, 361; F. and M. DAHL, 1927, pp.4, 27; PETRUNKEVITCH, 1928, p.252; ROEWER, 1928, pp.129, 135; —, 1932, p.431; LOCKET and MILLIDGE, 1951, p.271; ROEWER, 1959, p.893; BONNET, 1959, p.4836; WIEBES, 1959, p.15; YAGINUMA, 1960, p.84; FUHN and NICULESCU-BURLACU, 1971, p.233; TYSTCHENKO, 1971, p.180; BRIGNOLI, 1983, p.460; ROBERTS, 1985, p.142; YAGINUMA, 1986, p.169; PLATNICK, 1989, p.392.
Saitocosa ROEWER, 1954, p.290.

Of medium size. Carapace flattened, with a light median band. Head not elevated. AER procurved and shorter than PMR; AME equal in size to ALE. Clypeus one to two times as high as the diameter of AME. Chelicerae with two teeth on retromargin. Legs with two spines

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at prolateral apex of femora I; metatarsi and tarsi I without trichobothrium. Male palpi without claw.

Biological notes: The spiders of this genus are usually found on the glades in woods. The egg sac is globular and pinkish white.

Remarks: This genus is allied to *Alopecosa*, but the former has no trichobothrium on dorsal bases of both metatarsus and tarsus of leg I.

Xerolycosa nemoralis (WESTRING, 1861) (Figs. 1–4)

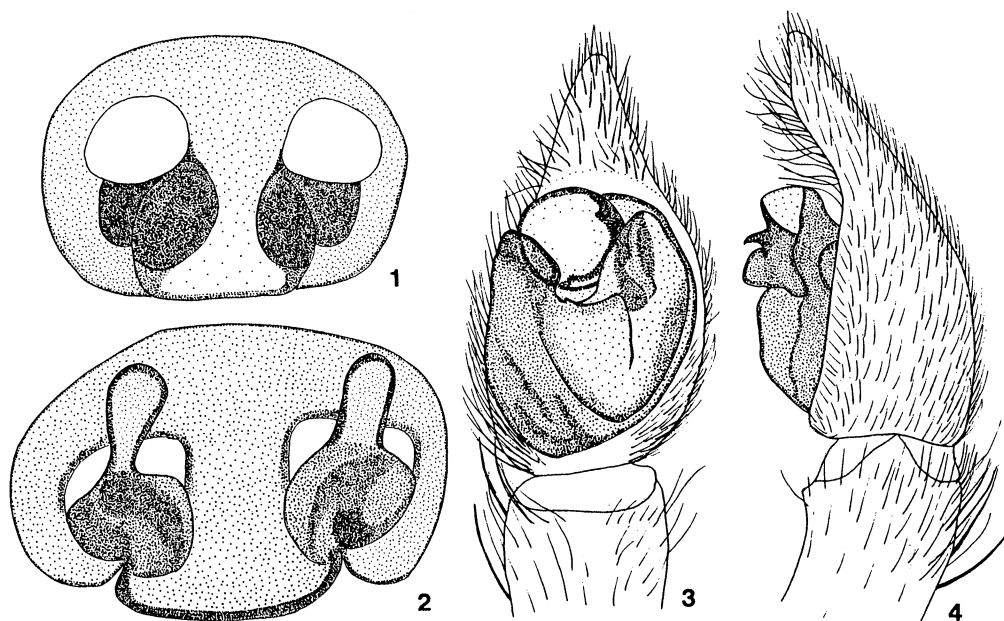
[Japanese name: Mori-komorigumo]

Lycosa nemoralis WESTRING, 1861, p.472; LESSERT, 1910, p.479; SIMON, 1937, pp.1106, 1136, figs. 1730–1731.

Tarentula nemoralis: CHYZER and KULCZYŃSKI, 1891, p.68, pl.2, fig. 34; BÖSENBERG, 1903, p.397, pl.37, fig. 585; BRISTOWE, 1933, p.284, figs. 1,4,5.

Xerolycosa nemoralis: DAHL, 1908, p.361, fig. 57; ———, 1912, p.583; F. and M. DAHL, 1927, p.27, figs. 63–64; PALMGREN, 1939, p.28, figs. 25–27; HOLM, 1947, p.23, pl.4, figs. 36–37, pl.10, fig. 25; LOCKET and MILLIDGE, 1951, p.271, figs. 132(A,B); WIEBES, 1959, p.16, figs. 33–34; YAGINUMA, 1960, p.84, pl.39, fig. 220; ———, 1970, p.667; FUHN and NICULESCU-BURLACU, 1971, p.237, fig. 116; TYSTSCHENKO, 1971, p.180; ROBERTS, 1985, p.142; YAGINUMA, 1986, p.169, fig. 92; PLATNICK, 1989, p.393; CHIKUNI 1989, p.242.

Tarentula meridiana THORELL, 1872, p.274; MENGE, 1879, p.531.



Figs. 1–4 *Xerolycosa nemoralis* DAHL: 1, Female epigynum (ventral view); 2, Female epigynum (dorsal view); 3, Male palp (ventral view); 4, Male palp (retrolateral view).

Tarentula flavitibia SAITO, 1934, p.355, pl.13, fig. 31, pl.15, fig. 84.

Lycosa flavitibia: SAITO, 1941, p.108, fig. 108; BONNET, 1957, p.2642; SAITO, 1959, p.54, pl.5, fig. 32, pl.6, fig. 32; YAGINUMA, 1970, p.666; ———, 1977, p.393.

Saitocosa flavitibia: ROEWER, 1954, p.290.

Female

Specimen measured: Nyugasayama, Nagano Prefecture, 26–27. VII. 1972 (H. TANAKA).

Measurements (mm). Total length 7.30. Carapace length 3.05, width 2.30. Abdomen length 4.25, width 2.85.

Leg	Femur	Patella & tibia	Metatarsus	Tarsus	Total
I	2.20	2.65	1.65	1.20	7.70
II	2.10	2.50	1.60	1.25	7.45
III	2.00	2.35	2.00	1.25	7.60
IV	2.75	3.20	3.30	1.60	10.85
Palp	1.10	1.10	—	0.90	3.10

Carapace blackish brown, having a conspicuous light yellow median band with white pubescence; lateral sides covered with white pubescence. AME separated from each other by length being larger than half the diameter of AME, and from ALE by length being smaller than half the diameter of AME. Clypeus dark brown, larger than the diameter of AME. Chelicerae reddish brown. Maxillae and labium yellowish brown, with light yellow apex, respectively. Sternum blackish brown. Abdomen dorsally and laterally greyish brown, with some dark brown indistinct markings; venter light yellowish brown, legs and palpi reddish brown except for blackish brown femora I-IV and palpi. Epigynum with a pair of circular genital openings at upper part and a broad septum (Fig. 1); spatula-shaped spermathecae as in Fig. 2.

Male

Specimen measured: Nyugasayama, Nagano Prefecture, 26–27. VII. 1972 (H. TANAKA).

Measurements (mm). Total length 4.95. Carapace length 2.65, width 1.90. Abdomen length 2.30, width 1.55.

Leg	Femur	Patella & tibia	Metatarsus	Tarsus	Total
I	1.90	2.40	1.50	1.15	6.95
II	1.85	2.30	1.55	1.15	6.85
III	1.75	2.10	1.80	1.10	6.75
IV	2.30	2.80	2.65	1.40	9.15
Palp	1.05	0.90	—	1.00	2.95

Similar to female, but differs from it in the following features: Clypeus reddish brown; ventral surface of abdomen greyish brown. Palpi having tarsal organs (Figs. 3–4) with

bifurcate parts dark brown in median apophysis in retrolateral view.

Variation: Total length ♀ 5.35–8.55, ♂ 4.65–5.95. Carapace length ♀ 2.75–3.25, ♂ 2.40–3.00; width ♀ 2.10–2.50, ♂ 1.80–2.15. Abdomen length ♀ 2.60–5.30, ♂ 2.25–2.95; width ♀ 1.65–3.35, ♂ 1.30–1.85. The clypeal length ranges one to two times as long as the diameter of AME.

Material examined: Hokkaido-1 ♀, Momoiwa, Rebun Is., 17. VII. 1971 (H. TANAKA); 5 ♀, 8 ♂, Rishiriyama, Rishiri Is., 21. VII. 1971 (H. TANAKA); 2 ♀, 3 ♂, Himenuma, Rishiri Is., 22. VII. 1971 (H. TANAKA); 1 ♀, 9 ♂, Abashiri, 14. VII. 1980 (N. YASHIRO); 11 ♀, 11 ♂, Aizankai, 10–11. VII. 1971 (H. TANAKA); 1 ♀, 1 ♂, same locality, 17–18. VII. 1973 (H. TANAKA); 1 ♀, 2 ♂, Sōunkyo, Kamikawa-cho, 8–9. VII. 1971 (H. TANAKA); 1 ♂, same locality, VI. 1979 (N. YASUDA); 1 ♂, same locality, 16. VII. 1984 (N. YASUDA); 1 ♀, same locality, 10. VII. 1985 (N. YASUDA); 5 ♀, 1 ♂, Iwaobetsu, 15. VII. 1971 (H. TANAKA); 1 ♀, Apoidake, 29. VII. 1974 (F. KOMAI); 1 ♂, same locality, 1. VIII. 1975 (S. TSUKAGUCHI); 1 ♀, 1 ♂, Nukabira, Tokachi, 8. VII. 1980 (S. HASHIMOTO); 1 ♀, 1 ♂, Nukabira, Katō-gun, 9. VI. 1981 (M. MATSUDA); 2 ♀, 2 ♂, Ishikari, 16. VI. 1974 (M. SUWA); 2 ♀, Sapporo, 20. VIII. 1976 (M. SUWA); 1 ♀, same locality, 22. VII. 1976 (M. SUWA); 1 ♀, 3 ♂, Youteizan, Niseko-cho, 7. VII. 1989 (N. YASUDA); Honshu- 1 ♀, Mt. Moriyoshi, Akita Pref., 21. VIII. 1970 (R. SONOBE leg., TY*); 5 ♀, 3 ♂, Kuzakai, Iwate Pref., 26. VI. 1973 (F. KOMAI); 1 ♀, 2 ♂, same locality, 27. VI. 1976 (F. KOMAI); 1 ♂, Akayumachi, Yamagata Pref., X. 1959 (S. NISHIKI leg., TY); 2 ♂, same locality, 12. VIII. 1959 (S. NISHIKI leg., TY); 1 ♂, Chausu-dake, Nasu-gun, Tochigi Pref., 23. VIII. 1968 (H. SAITO); 1 ♂, Nikko, Nikko-city, Tochigi Pref., 12. VII. 1973 (H. SAITO); 1 ♀, 2 ♂, Mt. Shirane, Tochigi Pref., 22. VII. 1981 (R. SONOBE leg., TY); 5 ♀, 7 ♂, Marunuma, Tone-gun, Gunma Pref., 24. VI. 1984 (H. TANAKA); 1 ♀, Nyugasayama, Nagano Pref., 31. VII. 1969 (Y. TARUMI); 15 ♀, 15 ♂, Minotoguchi, Nagano Pref., 31. VII. 1972 (H. TANAKA); 1 ♂, Mt. Yatsugatake, Nagano Pref., 30. VIII. 1973 (H. KOBAYASHI leg., TY); 1 ♀, 3 ♂, Ina, Nagano Pref., 7. VII. 1974 (N. TANAKA); 1 ♂, Shiga-kōgen, Nagano Pref., 10. VII. 1975 (Y. CHIKUNI); 1 ♀, Ohmachi-city, Nagano Pref., 28. VIII. 1983 (W. MIYATA); 1 ♀, Sugadaira-kōgen, Nagano Pref., 24. VIII. 1983 (A. TANIKAWA); 1 ♂, same locality, 23. VII. 1984 (A. TANIKAWA); 1 ♀, Shitara-cho, Kitashitara-gun, Aichi Pref., 6. VI. 1986 (K. OGATA); 3 ♀, 10 ♂, Yakumogahara, Hirasano, Shiga Pref., 22. VII. 1984 (T. YAMANO).

Distribution: Japan (Hokkaido and Honshu; In Honshu it seems to be limited to mountainous areas above cool temperate forest zone); widely distributed in the Palaearctic and Ethiopian subregions.

Biological notes: Mature spiders appear from May to August. The number of eggs per egg sac is 50 on the average. Formation of egg sacs is found in July.

Remarks: This species is very closely related to another Palaearctic *X. miniata* (C. L. KOCH), but is easily distinguished from the latter by the broader septum of the female

*TY: Personal collection of Emeritus Prof. T. YAGINUMA, Otemon Gakuin University, Osaka.

epigynum (Fig. 1).

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摘 要

日本から得られた *Xerolycosa* 属に含まれる1種, *Xerolycosa nemoralis* (モリコモリグモ) の再記載を行った。

Literature cited

- BONNET, P., 1957. Bibliographia Araneorum. II(3). 1099pp. Toulouse.
——— 1959. Bibliographia Araneorum. II(5). 827pp. Toulouse.
BÖSENBERG, W., 1903. Die Spinnen Deutschlands. V, VI. *Zoologica, Stutt.*, 14: 385–465.
BRIGNOLI, P.M., 1983. A catalogue of the Araneae described between 1940 and 1981. 755pp. Manchester University Press.
BRISTOWE, W.S., 1933. Notes on the biology of spiders. VIII. Rare spiders and the meaning of the word. *Ann. Mag. nat. Hist.* (10)11: 279–289.
CHIKUNI, Y., 1989. Pictorial Encyclopedia of Spiders in Japan. 308pp. Kaisei-sha, Tokyo.
CHYZER, C. and W. KULCZYŃSKI, 1891. Araneae Hungariae. Tomus I: Salticoidae, Oxyopoidae, Lycosoidae, Heteropodidae, Misumenoidae, Euetrioidae, Tetragnathoidae, Uloboroidae, Pholcoidae, Scytodoidae, Urocteoidea, Dictynoidae. 170pp. Budapest.
DAHL, F., 1908. Die Lycosiden oder Wolfsspinnen Deutschlands und ihre Stellung im Haushalt der Natur. Nach statistischen Untersuchungen dargestellt. *N. Act. Acad. Caes. Leop.-Carol.*, 88: 175–678.
——— 1912. Über die Fauna des Plagefenngebietes. *Beitr. Naturdenk.*, 3: 575–622.
——— and M. DAHL, 1927. Spinnentiere oder Arachnoidea. II. Lycosidae s. lat. (Wolfsspinnen im weiteren Sinne). *Tierw. Deuts.*, 5: 1–80.
FUHN, I.E. and F. NICULESCU-BURLACU, 1971. Fauna Republicii Socialiste Romania. Arachnid 3(3) Fam. Lycosidae. 251pp. Bucuresti.
HOLM, A., 1947. Egentliga Spindlar. Aaraneae fam. 8–10. Oxypidae, Lycosidae och Pisauridae. *Svensk. Spindelfauna*, 3: 1–48.
KOCH, C.L., 1834. Arachniden. In: Panzer, Faunae Insectorum Germaniae initia. Heft 122: 9–24.
LESSERT, R. de, 1910. Catalogue des Invertébrés de la Suisse. Fasc. 3. Araignées. 635pp. Geneve.
LOCKET, G.H. and A.F. MILLIDGE, 1951. British Spiders. Vol. 1. 310pp. London.
LOKSA, I., 1965. Araneae. In Ergebnisse der zoologischen Forschungen von Dr Z. Kaszab in der Mongolei. *Reichenbachia* 7: 1–32.
MENGE, A., 1879. Preussische Spinnen. X. Fortsetzung. *Schr. naturf. Ges. Danzig*, (N.F.), 4: 495–542.

- PALMGREN, P., 1939. Die Spinnenfauna Finnlands I. Lycosidae. *Acta zool. Fenn.*, 25: 1–86.
- PETRUNKOVITCH, A., 1928. Systema Araneorum. *Trans. Connect. Acad. Arts Sci.*, 29: 1–270.
- PLATNICK, N.I., 1989. Advances in Spider Taxonomy 1981–1987. 673pp. Manchester Univ. Press.
- ROBERTS, M.J., 1985. The Spiders of Great Britain and Ireland. Vol. I. Atypidae-Theridiosomatidae. 229pp. Harley Book, Colchester.
- ROEWER, C.F., 1928. Araneae, Echte oder Webspinnen. In: Die Tierwelt Mitteleuropas. 144pp. Leipzig.
- 1932. Arachnoidea, Spinnentiere. In: Brohmer, P. (ed.), Fauna von Deutschland. pp.404–432. Leipzig.
- 1954. Katalog des Araneae von 1758 bis 1940, bzw. 1954. 2a: 1–923; 2b: 925–1751. Bruxelles.
- 1959. Exploration du Parc National de l'Upemba. Araneae Lycosaeformia II (Lycosidae). *Inst. Parc. Nat. Congo Belge, Bruxelles*, 55: 519–1040.
- SAITO, S., 1934. Spiders from Hokkaido. *J. Fac. Agr. Hokkaido Imp. Univ.*, 33: 267–362.
- 1941. Suborder Arachnomorphae. Tetrasticta-Trionycha II. (Arachnoidea-Araneina). In: Okada *et al.*, Fauna Nipponica 9(2-2) 1–220pp. Sanseido, Tokyo.
- 1959. The Spider Book Illustrated in Colours. 194pp. Hokuryukan, Tokyo.
- SIMON, E., 1937. Les Arachnides de France. Tome VI. Synopsis general et Catalogue des especes francaises de l'ordre des Araneae, 5 et derniere partie. 979–1298pp. Paris.
- STRAND, E., 1909. Süd- und ostasiatische Spinnen II. *Abh. naturf. Ges. Görlitz*, 26: 1–128.
- THORELL, T., 1872. Remarks on synonyms of European spiders. Part III, 229–374pp. Upsala.
- 1875. Descriptions of several European and North African spiders. *Kongl. Svenska Vet.-Akad. Handl.*, (N. F.) 13(5): 3–203.
- TYSTCHENKO, V.P., 1971. Classification of Spiders of the European Part of the USSR. 281pp. Leningrad.
- WESTRING, N., 1861. Araneae svecicae. *Göteborg. Kongl. Vet. Handl.*, 7: 1–615. Also *Sep., Gothoburgi*, 1861: 1–615.
- WIEBES, J.T., 1959. The Lycosidae and Pisauridae (Araneae) of the Netherlands. *Zool. Verh., Leiden*, 42: 1–78.
- YAGINUMA, T., 1960. Spiders of Japan in Colour. 197pp. Hoikusha, Osaka.
- 1970. The spider fauna of Japan (revised in 1970). *Bull. natn. Sci. Mus.*, 13: 639–701.
- 1977. A list of Japanese spiders (revised in 1977). *Acta arachnol.*, 27: 367–406.
- 1986. Spiders of Japan in Color (n. ed.). 305pp. Hoikusha, Osaka.